

**PROPOSED USE OF THE PLENARY POWERS TO DESIGNATE (i) A NEOTYPE FOR THE NOMINAL SPECIES "AMMONITES MAMMILLATUS" SCHLOTHEIM, 1813, AND (ii) A TYPE SPECIES FOR THE GENUS "DOUVILLEICERAS" DE GROSSOUVRE, 1893 (CLASS CEPHALOPODA, ORDER AMMONOIDEA)**

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The present application to the International Commission on Zoological Nomenclature deals with the problem raised by *Ammonites mammillatus* Schlotheim, 1813. It was originally submitted in accordance with the extension of the Plenary Powers granted to the Commission by the Thirteenth International Congress of Zoology in Paris in 1948 for the purpose of determining how the *Règles* should be applied in cases where it was doubtful to what species a given name should be held to apply (1950, *Bull. zool. Nomencl.* **4**: 324). Since the Copenhagen Congress of 1953, this application has been re-written as a request for the designation of a neotype for the foregoing species. It is important for palaeontological and stratigraphical nomenclature that the name of the nominal species *Ammonites mammillatus* Schlotheim, 1813, should be stabilised in the sense in which it is now almost universally applied. It is particularly hoped that the International Commission will give this application all practicable priority, as a decision on it is urgently required in connection with the preparation of the forthcoming *Treatise on Invertebrate Paleontology*.

2. *Ammonites mammillatus* Schlotheim is the type species of the genus *Douvilleiceras* de Grossouvre, 1893 (on which is based the family DOUVILLEICERATIDAE Parona and Bonarelli) and the name *Douvilleiceras mammillatum* connotes one of the most familiar and important index fossils in Cretaceous stratigraphy. The Mammillatum Zone is world-wide and in using the term we follow the practice of four generations of geologists and stratigraphers. Yet, as is shown below, if the *Règles* are permitted to pursue the normal course, the name *D. mammillatum* would be virtually abandoned, the genus *Douvilleiceras* would remain forever taxonomically inassessable, and an unfamiliar zonal terminology would supplant the well-known "Mammillatum Zone."

3. When proposing the combination *Ammonites mammillatus*, Schlotheim (1813: 111) did not himself illustrate or describe the species but referred to a figure in Walch (1774: 196, pl. ii, fig. 3). This indication renders the name available, and in so far as I have been unable to trace a use of the combination *Ammonites mammillatus* prior to that of Schlotheim, or any earlier indication for the original of the Walch figure in question, the name is an available name and the oldest such name for the species in question.

4. Unfortunately, Walch's figure is defective in three respects: (a) It depicts a nucleus or an immature specimen, (b) it shows the specimen in side view only, and (c) it falls far short of what is required by modern standards of illustration. Owing to these facts, it is not possible to determine with certainty the taxonomic species represented by Walch's figure. Hyatt (1903: 108) observed that "The figure given by Walch seems to apply to the young of the form usually cited by authors as *mammillaris* and figured by d'Orbigny under this revised name." In Spath's view "Walch's original figure . . . may be identical with the distantly ribbed *D. inaequinodum* (Quenstedt)" (Spath, 1923: 67). To Breistroffer (1947: 64) Walch's figure "appears to represent a specimen from the Ardennes analogous to *D. orbigny* Hyatt." In my opinion, the figure in question was probably based on one of the coarsely ribbed species of *Douvilleiceras*, such as *D. inaequinodum* (Quenstedt), *D. orbigny* Hyatt, or *D. baylei* Spath, but I consider it unsafe to assume this: alternatively it could represent a member of the MANTELLICERATIDAE.

5. The original of Walch's figure is of unknown provenance, and, if it still exists, its present whereabouts are not known.

6. For over a century palaeontologists have ignored Walch's figure and have based their conception of *Ammonites mammillatus* on figures supplied by later authors. Chief among these are the two plates of ammonites depicted in d'Orbigny's *Paléontologie française* (1841: pls. 72-3) under the name *A. mammillaris* (an unjustified emendation of *A. mammillatus*). D'Orbigny's interpretation of Schlotheim's species was very broad and his figured examples of "*A. mammillaris*" (with which he synonymised *A. monile* Sowerby (J.), 1816) have since been referred to several distinct species of *Douvilleiceras*. This broad interpretation of *A. mammillatus* was current throughout most of the nineteenth century, but towards its close Parona and Bonarelli adopted the name *D. inaequinodum* (= *A. monile inaequinodum* Quenstedt, 1849) for the coarsely ribbed species of *Douvilleiceras*, such as illustrated in d'Orbigny's plate 73, restricting the name *D. mammillatum* to the forms with more closely spaced ribs, of which the originals of d'Orbigny's plate 72 and J. Sowerby's *A. monile* provided examples (Parona and Bonarelli, 1897: 95). Zittel in 1895 (: 429, fig. 429) had already chosen a specimen of this latter group to illustrate *D. "mammillare"* and his figure, generalised but in agreement with *D. mammillatum* in its current conception, has been reproduced in all the many editions and translations of his well-known text-book. To this restriction of d'Orbigny's comprehensive *A. "mammillaris,"* Hyatt (1903: 109) and Jacob (1907: 370) added their authority.

7. De Grossouvre designated "*A. mamillaris*"[sic.] [*recte A. mammillatus*], without an attached author's name, as the type species of his nominal genus *Douvilleiceras*, and the suture-line alone was figured (de Grossouvre, 1893: 23, 26). Hence there is no published evidence to show in what taxonomic sense de Grossouvre used the specific name *A. mammillatus*. Fortunately, specimens of *Douvilleiceras* formerly in de Grossouvre's collection and labelled by him are preserved both in the British Museum (Natural History) and in the Sedgwick Museum at Cambridge and inspection of these shows clearly that his interpretation of *A. mammillatus* agreed with that of Parona and Bonarelli.

8. Thus, the use of *A. mammillatus* for the closely ribbed *Douvilleiceras*, rather than for the coarsely ribbed species to which Walch's original probably belonged, had become established even before the present century. In his monograph of the Gault Ammonoidea Spath wrote: "It seems desirable to employ the term *D. mammillatum* in the generally accepted interpretation of Parona and Bonarelli, excluding, however, the finely costate *D. monile* (J. Sowerby)" (Spath, 1923: 69). At the same time Spath proposed the nominal species *Douvilleiceras albense*, to which are now referred the originals of d'Orbigny's plate 72, figs. 3-5 (Bristroffer, 1947: 65); he retained only the originals of d'Orbigny's plate 72, figs. 1-2 in *D. mammillatum*. Spath's monograph is the modern reference book for the student of Albian stratigraphy and ammonitology and the definition of *D. mammillatum* contained therein has become standardised throughout the world, the species being generally quoted as *D. mammillatum* (Schlotheim), emend. Spath.

9. In 1947, however, Bristroffer, acting strictly in accordance with the provisions of Article 25, adopted a different nomenclature for the species of *Douvilleiceras*. For *D. mammillatum* (Schlotheim) emend. Spath, he revived Quenstedt's name *aequinodus* (originally published in the trinomial combination *Ammonites monile aequinodus*) and he proposed to call the zone of *D. mammillatum* "the zone of *D. monile* and *D. orbignyi*" (Bristroffer, 1947: 51). Bristroffer's nomenclature has not been adopted by other ammonite specialists nor by stratigraphers, who have continued to use *D. mammillatum* as an index-fossil and in the taxonomic sense defined by Spath (see, for instance, Collignon, 1949: 76; Stoyanow, 1949: 36; Casey, 1950: 270, 292; 1951).

10. If, as proposed by Bristroffer, the *Règles* be allowed to take their normal course, the situation would be as follows:—

(a) *Ammonites mammillatus* Schlotheim, 1813, would be interpreted by the figure in Walch referred to above, and, since this is indeterminate, the name could be applied to no other specimen.

(b) The genus *Douvilleiceras* de Grossouvre, 1893, with type species by original designation *Ammonites mammillatus* Schlotheim, 1813 (cited by de Grossouvre in the incorrectly spelt, and in the unjustifiably emended, form *mamillar*is), would have an insecure foundation and would for ever be a source of uncertainty to the taxonomist. Established nomenclature could be upset at any time by an irresponsible author who might claim subjectively to have identified Walch's figure with, say, a species of *Mantelliceras* or some other genus.

(c) The family DOUVILLEICERATIDAE Parona and Bonarelli, would have a similar unsatisfactory basis.

(d) Another, unfamiliar, name would be required for the taxonomic species to which the combination *Douvilleiceras mammillatum* is now almost universally applied.

(e) The term "Mammillatum Zone" could no longer be used in stratigraphy.

11. Serious confusion in stratigraphy and palaeontology would result from this situation. To avoid this confusion I recommend that the International Commission should make use of its Plenary Powers to designate the specimen

figured by Spath in 1923 (*Monograph of the Gault Ammonoidea*) as figures 3a and 3b on plate 4, to be the neotype of the nominal species *Ammonites mammillatus* Schlotheim, 1813. In choosing this specimen, I am guided by the following considerations: (a) It is a clearly identifiable specimen of the species accepted as representing *D. mammillatum* by the overwhelming majority of workers. (b) It is accurately localised in the classic Albian section at Folkestone, Kent, itself a standard of comparison for Europe: topotype specimens can be obtained in abundance (see Casey, 1950: 272) and such specimens are represented in the principal museums, both in Britain and abroad. (c) It agrees with *D. mammillatum* as conceived by de Grossouvre, the founder of the genus *Douvilleicerus*. (d) It is the specimen selected to illustrate *D. mammillatum* by Roman in his monumental and widely-used Ammonite Synopsis (Roman 1938, pl. 43, fig. 411). (e) The specimen is extant, being preserved in the collections of the British Museum (Natural History) and is thus available for study by interested specialists.

**12.** The foregoing specimen is in the collections of the British Museum (Natural History). Affixed to the specimen are:—

- number label "C 12491" — the official registration number of the specimen.
- „ „ „ 2710 ” — a supplementary MS catalogue number of the late G. C. Crick.
- green spot — indicating figured specimen.

**13.** Accompanying the specimen are the following labels:—

- (1) "L.G.S. or basement bed of Gault (zone of *Douvilleicerus mammillatum*): Folkestone. F. G. H. Price coll. No. 17."
- (2) "*Douvilleicerus mammillatum* (Schloth.), Albian. Basement bed of Gault. Zone of *Douvilleicerus mammillatum*. Folkestone, Kent. F. G. H. Price coll., purch. F. H. Butler, 26 Feby., 1910."
- (3) "*Douvilleicerus mammillatum* (Schlotheim), Middle Albian (Lower Gault) Mammillatus Bed. Folkestone, Kent. Figd. Spath, 1923. Mon. Gault. Ammonites (Pal. Soc.), pt. 1, pl. iv, fig. 3. F. G. H. Price coll. 1910."
- (4) "C 12491. Neotype—Casey."

**14.** The proposal which I now submit is therefore that the International Commission on Zoological Nomenclature should:—

(1) use its Plenary Powers:—

- (a) to designate as the neotype of *Ammonites mammillatus* Schlotheim, 1813, the specimen figured by Spath in 1923, *A Monograph of the Gault Ammonoidea*, as figures 3a and 3b on plate 4;

- (b) to set aside all type selections for the genus *Douvilleiceras* de Grossouvre, 1893, made prior to the decision now to be taken and, having done so, to designate as the type species of that genus the nominal species *Ammonites mammillatus* Schlotheim, 1813, determined as in (a) above ;
- (2) place the generic name *Douvilleiceras* de Grossouvre, 1893 (gender of generic name : neuter) (type species, by designation, as proposed under (1) (b) above, under the Plenary Powers : *Ammonites mammillatus* Schlotheim, 1813, determined, as proposed in (1) (a) above, under the Plenary Powers) on the *Official List of Generic Names in Zoology* ;
- (3) place the specific name *mammillatus* Schlotheim, 1813, as published in the combination *Ammonites mammillatus*, as proposed, under (1) (a) above, to be interpreted under the Plenary Powers, on the *Official List of Specific Names in Zoology* ;
- (4) place the under-mentioned invalid emendations of the specific name *mammillatus* Schlotheim, 1813, as published in the combination *Ammonites mammillatus*, on the *Official Index of Rejected and Invalid Specific Names in Zoology* :—
- (a) *mamillaris* d'Orbigny, 1841, as published in the combination *Ammonites mamillaris* ;
- (b) *namillaris* [sic] de Grossouvre, 1893, as published in the combination *Douvilleiceras namillaris*.

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